

Notice of Allowability

Application No.

10/624,975

Examiner

Fayez G. Assaf

Applicant(s)

NOE ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the phone interview with Applicant's representative on 7/20/2004.
2. ☒ The allowed claim(s) is/are 1-37.
3. ☒ The drawings filed on 22 July 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/465,285.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 7/22/2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

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EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Greenberg (Registration No. 29,308) on 7/20/2004.

The application has been amended as follows:

In the specification:

After the title, line 5, after "filed December 16, 1999", the following phrase has been inserted --, now U.S. Patent 6,678,430 B1--.

In the claims:

Each independent claim has been amended in order to provide greater clarity to the language of the claim by reciting the essential feature of the claimed invention.

Claims 1, 11 and 21 have been amended as follows:

1. (Currently Amended) A polarization transformer for DC drift-free polarization transformation or polarization mode dispersion (PMD) compensation, comprising:

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a chip having a waveguide with an input;

a plurality of comb-shaped mode converter electrodes disposed perpendicularly to said waveguide, said mode converter electrodes receiving DC component-free control voltages for changing a state-of polarization or a PMD of an optical signal;

a comb-shaped ground electrode disposed in vicinity of said mode converter electrodes; and

a device selected from the group consisting of a differential phase modulator and a mode converter at said input.

11. (Currently Amended) A polarization transformer for DC drift-free polarization transformation or polarization mode dispersion (PMD) compensation, comprising:

a chip having a chip surface, a waveguide with an input, and a plurality of comb-shaped mode converter electrodes

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receiving DC component-free control voltages for changing a state-of-polarization or a PMD of an optical signal;

a device selected from the group consisting of a differential phase modulator and a mode converter at said input; and

electrodes on two sides of said waveguide for generating electrical fields along said chip surface running perpendicular to said waveguide.

21. (Currently Amended) A polarization transformer for DC drift-free polarization transformation or polarization mode dispersion compensation (PMD), comprising:

a chip having a waveguide conducting an optical signal;

at least one first DC drift-free polarization transformer for changing a state-of-polarization or a PMD of the optical signal;

at least one second DC drift-free polarization transformer adapted to alternately and at least partly take over a

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function of said at least one first polarization transformer and to be driven by driving signals opposed to taking over the function.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Heismann (US 5,361,270).

Fred Heismann: "Integrated-Optic Polarization Transformer for Reset-Free Endless Polarization Control", IEEE Journal of Quantum Electronics, Vol. 25, No. 8, August 1989, pp. 1898-1906.

Reasons for Allowance

Claims 1-20 are allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest the mode converter electrodes receiving DC component-free control voltages for changing the state-of polarization or the PMD of an optical signal as set forth in the claimed combination.

Claims 21-36 are allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest at least one first DC drift-free polarization transformer for changing the state-of-polarization or the PMD of the optical signal as set forth in the claimed combination.

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fayez G. Assaf whose telephone number is (571) 272-2307. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on

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access to the Private PAIR system, contact the Electronic
Business Center (EBC) at 866-217-9197 (toll-free).



Fayez G. Assaf

Examiner

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9/6/2004